**Geometry/Algebra 2, Section 8.5 Use Properties of Trapezoids and Kites, p 542**

**p 546 #3-15 ALL**

3. The slope of  = 0

The slope of  = 

The slopes of  and  are not the same, so  is not parallel to .

The slope of 

The slopes of  and  are the same, so //.

Quadrilateral ABCD has exactly one pair of parallel sides. ABCD is a trapezoid.

4. 



The slopes of  and  are not the same, so  is not parallel to .





The slopes of  and  are not the same, so  is not parallel to .

The quadrilateral ABCD is not a trapezoid because it does not have exactly one pair of parallel sides.

5. 



The slopes of  and  are not the same, so  is not parallel to .





The slopes of  and  are not the same, so  is not parallel to .

The quadrilateral ABCD is not a trapezoid because it does not have exactly one pair of parallel sides.

6. 



The slopes of  and  are the same, so .



 or undefined.

The slopes of  and  are not the same, so  is not parallel to .

The quadrilateral ABCD has exactly one pair of parallel sides. ABCD is a trapezoid.

7. 

8. 

9. 

10. Both pairs of base angles are congruent, so the quadrilateral is an isosceles trapezoid by Theorem 8.14.

11. Because there are exactly two right angles, there is exactly one pair of parallel sides. So, the quadrilateral is a trapezoid.

12.  and , and  and  are supplementary by the Consecutive Interior Angles Theorem. Because both pairs of opposite angles are congruent, JKLM is a parallelogram.

13. 

14. 

15. 

**p 547 #18-27, 29, 30, 34 and 36**

18. 

19. 

20. 

21. 



22. 



23. 



24. The length of the midsegment of a trapezoid is not the difference in lengths of the two parallel sides. It is one-half the sum of the two parallel sides.





25. 

26. 

27. 

29. The length of  is 57.

30. The lengths of the bases are 12 and 36.

34. 

The length of HC is 32.2 centimeters and the length of FE is 68.8 centimeters.

36. a. The quadrilaterals are a kite and a trapezoid.

b. The length of  increases.  and  both increase.  and  both decrease.

c. 





The trapezoid is isosceles, so both pairs of base angles are congruent.